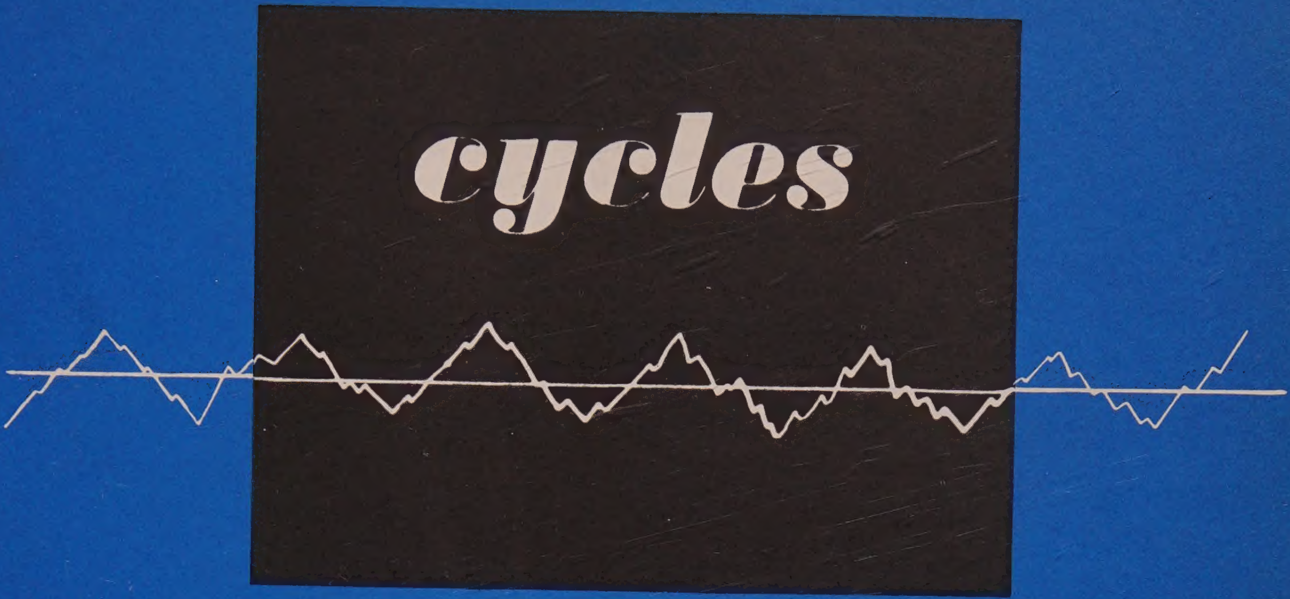
cycles



June 1960

FOUNDATION FOR THE STUDY OF CYCLES
New York, New York

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Director's Letter

Dear Member:

I've just been rereading Paul de Kruif's *Microbe Hunters*. (Available by mail from Pocket Books Inc., 630 Fifth Ave., New York 20, N. Y. for $.55). It is a fascinating book. It has been one of the great best sellers of modern times since it was first completed in 1925. I commend it to you.

The *Microbe Hunters* has nothing to do with cycles. However, the first chapter which tells you about Leeuwenhoek's discovery of microbes in the year 1675, is as dramatic as the tale of any great scientific discovery.

The *Microbe Hunters* is full of glorious achievements for the benefit of mankind. Achievements that may be duplicated someday by the study of cycles. But the part of it that I like best is the story of that Dutch dry goods merchant and city-hall janitor who learned, by himself, to grind the best lenses in the whole world. His name was Antony Leeuwenhoek. It was he who, about 1675 looking through one of his famous microscopes at a drop of rain water, first saw microbes! Until that marvelous day no living man had seen these little wriggling creatures. No man knew that there was a whole subvisible *world* existing under his very fingernails! One drop of pepper water, computed Leeuwenhoek, contained 2,700,000 of the "beasties" —as many of them as there were people in his native country!

There is much in common between the new world opened up by Leeuwenhoek and the new world opened up by the early cycle students. Such men as Dr. Hyde Clarke of England who in 1838 first noticed rhythmic cycles in business activity; Ernest Thompson Steton who was one of the first to call attention to the rhythmic variation in the abundance of animals; Samuel Benner, first American to notice cycles in prices, and so forth.

These men, and other cycle pioneers, first glimpsed a regularity caused by something—they knew not what. They knew not what, but they did know, as we know today, that it is *something*. And insofar as this something is not chance, or mere internal dynamics, they glimpsed forces abroad in the Universe—forces surrounding us, forces influencing us, that had hitherto been as unseen and unknown as Leeuwenhoek's beasties. Indeed, they too discovered a whole new world in which to adventure!

It is now up to us, their followers, to disport ourselves in this new world—to learn the nature of these forces—to learn their laws—to learn how to control them—to learn how to adapt them to our use. All for the benefit of mankind,—and, if the truth must be told, all for the fun of it!!

Cause

You likely think of *Cycles* as a means of throwing some additional light of the probable future course of stock prices, commodity prices, general business, real estate activity, wars, and the thousand and one things that evidence cyclic behavior.

There is, however, a much deeper significance to the whole subject. I would like to put it this way:

1. You can't have significant cyclic behavior without some sort of a *cause*.
2. But we *do* have significant cyclic behavior.
3. Hence, we *must* have some sort of cause.
4. However, in many instances, no such cause is known.
5. Therefore, there must be *unknown* causes operating in many of the behaviors that evidence cycles.

The importance of cycles is not the light they may happen to throw on the future of a particular string of figures—it is the fact that they show us that there is law, order, structure, and pattern in things such as stock and commodity prices, industrial production, war, and many other things previously thought structureless!

I may be able to make this fact clearer by an analogy.

Suppose you were a member of the first team of Earthlings to land a space ship on the moon.

When your space ship landed you would put on your gas mask and your oxygen tank (for there is no air on the moon) and set forth.

You would, of course, find nothing but rock and lava, because, as there is no air, there is no lunar life, neither vegetable nor animal. The rocks would be strewn about every which way as in some parts of our own country. There would be no order, no pattern.

But, wait! Suppose, as you walk around, you see that some of the rocks are laid out in rows—then more rocks in rows! Soon it is clear that you are in the middle of the ruins of an ancient city!! The rocks show where the buildings and the streets have been. If you found such patterns you would deduce that creatures, like men, had lived on the moon in ancient times.

Now, which is more important, the ability to predict the location of the next street, or the fact that there is *pattern* (and hence, a causative factor) where, until your discovery, everyone had thought the behavior patternless? The answer is obvious.

So it is with the study of cycles. The really important thing is the extent to which such study pushes back the frontiers of knowledge.

Fact

Ruskin once said something to the effect that before an artist expressed himself he should have *lived*; before a writer expressed himself he should have *thought*; before a scientist expressed himself he should *know*. Pretty neat, eh what? (By the way, if you can give me the exact citation it will be greatly appreciated.)

Of course a philosopher might disagree. Ed Dakin, to whom I quoted the above epigram wrote back—"A wonderful quotation. But *scientifically* speaking, it is quite impossible for anyone to distinguish between what he thinks and what he knows. He can only distinguish between the kinds *of evidence* he has in mind to support one or another of his ideas. But since his recognition and choice of evidence is conditioned by personality factors and many other considerations, he can never even say he “knows” his evidence. I am aware that this is a fundamental attack on the positivism of all “modern” science. It is meant to be. Einstein, who probably never conducted an experiment in his life, showed by just talking *thought* how thousands of physicists had been misusing their laboratory evidence for years—misreading some of it, giving excess emphasis to some of it, ignoring a very vital part of some of it that existed right under their noses.

“Let us recognize here, and always, that there is no completely objective evidence for anything, not even in the ‘purest’ science. Every one’s efforts to recognize evidence are colored by his personality, his character, his glands, his training; and all science is full of instances where significant evidence is ignored for years, just because the workers in the field were temperamentally averse (in effect) to recognizing data that stared them in the face. A whole new set of differently ‘conditioned’ scientists had to come along before the significant data were seen for what they were—really important clues to needed answers. All modern physics exists today just because physicists eventually came to realize just how conditioned all knowledge is, and must be, by the limitations of the human personality. This is the real message of Millikan, Jeans, Einstein, and all the other modern physicists of stature. If this applies so clearly to a so-called ‘exact’ and ‘pure’ science like physics, how greatly it must apply to research in a vaguely defined field like that of cycles!”

Of course Dakin is right. Even so, for most of us, Ruskin points up a very real difference. Artists do need to *live*, writers do need to *think*, and scientists do need to limit themselves to what they at least think they know, or, if not, they must distinguish clearly between what they know they think, and what they *think* they know, (if you want to be so precise!).

We try to observe this injunction.

Cycles

My concept of cycles is quite different from that of many of our members. The average member, I imagine, thinks of cycles as something absolutely regular, distorted this way and that by other cycles and by randoms. The evidence points to something quite different.

Let me illustrate by reminding you of the early days of astronomy. The first astronomers observed the stars wheeling across the firmament in immutable and strictly predictable succession—a cycle in the strictest sense of the word. Most stars, that is. A few didn’t behave themselves. They moved around a bit relative to the great bulk of their steller companions. Mostly they went in one direction, but sometimes they paused. Sometimes they even went backward. Most peculiar! The early astronomers called these mavericks *Planets* from a Greek word meaning “wandering.” It was about 2,000 years before the laws governing these wanderers were discovered.

The cycles we observe wander about also—first early, then late; first strong, then weak. The idea that they are regular arises from the fact that everybody represents them as regular because, not knowing the rules governing the irregularity, that is all they can do. It’s as if the ancient astronomers had said to the ancient mariners, “*on the average* this planet will behave this way.” True enough, but leaving something to be desired from the standpoint of navigation!

I trust it won’t take 2,000 years to find the laws of cycles. If it does, I’ll be an old, old man!

Cordially yours

Edward R. Dewey

Director

Research by Staff

THE 200-YEAR VARIATION IN THE SUNSPOT CYCLE

By Edward R. Dewey

People tend to think of the sunspot cycle as a little over 11 years long, and this of course is true, on the average. In other words, on the average, there are *more* sunspots, then *fewer* sunspots, in a cycle that is of about this length. (We have just recently—1957—passed the crest of the current cycle. Sunspots are now decreasing in number, for better or for worse!)

However, as with so much in nature, it is not quite as simple as that. Some sunspot cycles—like some stock price cycles—are long; some are short. The variation is considerable. Sunspot cycles have been known to be as short as seven years, as long as 17 years. Quite a variation!

Recent research has given us the approximate dates of sunspot maxima as far back as 300 B.C. Study of these figures shows that the average length of the sunspot cycle is 11.094 years. However, for long periods of time—hundreds of years—it runs longer than this (11.17 years, to be exact). Then for hundreds of years it runs shorter (11.02 years, to be exact). Then longer again. We are in one of the long periods now. This current long period began about 1500 or 1550.

This variation of length constitutes the *long* cycle in the length of the sunspot cycle

Second Discovery

Another cycle in the length of the sunspot cycle has now been discovered. It turns out to be almost exactly 200 years long. That is to say, on the average there are about nine *short* sunspot cycles followed by about nine *long* sunspot cycles, and repeat. Another way of putting it would be to say that for about nine cycles the timing of the maximum number of spots tends to come early compared with normal timing. Then for about nine cycles the times of maxima tend to come late. This behavior has repeated ten times over the period for which figures are available. You will find full details of the research in the article, "The 200-Year Cycle in the Length of the Sunspot Cycle," in the April 1960 issue of the *Journal of Cycle Research*. (See the notice of the April *Journal* on the outside back cover of this issue.)

Sunspot maxima tend to come first early and then late in a rhythmic cycle which turns out, 294 B.C. to date, to be exactly 18 sunspot cycles (approximately 199.4 years) long.

The shape of this cycle, on the average, proves to be zigzag. That is, on the average, the sunspot maxima lag for a hundred years at a uniform *rate* to a point (1.58 years behind normal), then advance at a uniform rate to a point an equal time interval ahead of normal. ("Normal" is taken as a 19-item moving average of dates of actual maxima.)

Second and third harmonics (or almost-harmonics) of the 200-year cycle (100-years; 66-years) also seem to be present, but were not investigated.

The so-called 80-year cycle noted by others seems to be present over the entire span of 2,253 years, but was not investigated.

The cause of the 200-year cycle could, of course, be chance. It might, however, be a concurrent 11.73-year cycle (1/17 of 199.40 years) which first advances and then retards the sunspot maxima from their normal timing. Such a cycle is suggested by a periodogram of sunspot numbers. If there is such a cycle, its timing, based on a study of the actual sunspot numbers, 1749—1959, comes almost exactly at the time expected on the basis of the above supposition.

The significance of the study lies in part in the discovery that there is a 200-year cycle in the length of the sunspot cycle. The fact that the shape of this cycle is zigzag instead of some other shape that might be supposed, is also important. Increased credence should also perhaps be given to the idea of an 11.73 ± .005-year cycle.

I do not know the implication of this work. Science finds facts first—their usefulness is discovered afterwards.

There is reason to believe that both we *and* the sun are affected by a great variety of cyclic forces; that in both cases these forces first affect the polar regions; that they then affect the temperate regions; and so on progressively toward the equator. If this proves to be so, anything we can learn about sunspot cycles can be applied directly to cycles here on earth.

One of the big problems connected with earthly cycles is to learn how and when they vary in length.

Hints About Earthly Cycles

As I have said in the Director's Letter for this issue, one of the chief problems of cycle study is to find out the laws governing the *changing length* of cycles. I am convinced that old Samuel Benner had the right idea. You will remember that he said that pig iron prices had a cycle with crests spaced 8, 9, 10, 8, 9, 10, 8, 9, 10, 8, 9, 10, etc., etc., years apart. This, of course, is a cycle that *averages* nine years long. However, Benner's formula was much more accurate. Pig iron prices really did have an 8-, 9-, 10-, 8-, 9-, 10-, 8-, 9-, 10-year behavior. And this behavior continued for 60 years after discovery. As a matter of fact, if we make a slight adjustment, it may still be operative.

The knowledge that sunspot maxima come early and come late in a cycle that is 199 or 200 years long is not going to make a million dollars for anyone in the immediate future, nor is it going to date the next depression. But it is a piece in the great jigsaw puzzle that we are in the process of solving—a piece that may prove of value sooner than any of us now realize.

A STRIEFF ANALYSIS OF STOCK PRICES

By Gertrude Shirk

A breakdown of the internal structure of the Dow-Jones Industrials monthly average into four component parts, as developed by a "Strieff" cycle analysis is shown on the chart on the opposite page.

The Strieff method develops three cycles and a trend in the data to which it is applied. There is a short cycle, a middle cycle, and a long cycle separated out and shown individually.

The varying length of these component cycles is one of the chief characteristics of this method which was developed by Mr. Abraham Strieff, a consulting engineer of New York City. (The method is explained in detail in the textbook, *How To Make A Cycle Analysis.*)

On the chart Curve A at the top is the short cycle, Curve B is the middle cycle, and Curve C is the long cycle. All three cycles are plotted to the same vertical scale. Obviously, the long component, Curve C, is the most important; the amplitude and the length of time covered by the swings being much greater. However, the distance up or down covered by the individual month-to-month moves on Curve C are not necessarily greater than the up or down distance covered from month to month on Curves A or B.

The bottom section of the chart shows the trend developed by this method as a broken line, Curve E, and the original data, the Dow-Jones Industrial monthly average as the solid line, Curve D.

The scale that was used for the bottom section of the chart, Curves D and E, is only *one-fifth* the size of the scale used for the upper three curves. It is important to keep this in mind when examining the chart.

Each of the four factors which we have used can, of course, be extended. Because the cycles vary in length there is no rigid pattern to follow in making an extension. The only criteria for an extension is that it be *reasonable* in the light of the past behavior of the cycle. You can see that this approach is much more flexible than the combination of cycles of rigid length. But this added flexibility adds a great measure of judgment to any extension that is made.

There is one limiting factor, however. By construction, the four parts (three cycles and trend) always equal the data, *exactly*. Because the work is centered (does not come up to the latest month) there are several months for which a projection is made where the answer is known.

You should use your own judgment to make your own extension. If you like to tinker, this is the way to do it. Extend each of the top three curves, which are in percentages, and multiply the extensions together. Apply the result of this multiplication to the extended level of the trend. The trend is in terms of the Dow-Jones figures.

On the chart the cycles are all projected into December, 1959. Curve A is at 101.4%, Curve B is at 101.2%, and Curve C is at 118.85%. The combination of the three percentages is 121.99%. The trend at December is 551 (550.8 actually, although such precision is not really necessary). Thus, 121.99% of 550.8 is 672, which is the actual Dow-Jones average for December. By the time you have arrived at months for which there are as yet no actual figures, you have established patterns for the extensions which make the conclusion more reliable.

Of course, you have to review the extensions monthly as new actual data become available.

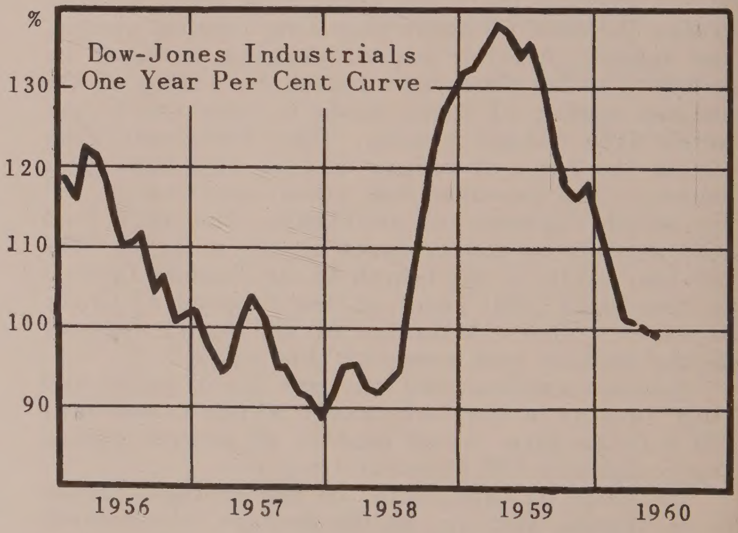
My extension of the four factors is marked on the chart by dots. When combined, these extensions give the following values:

Monthly Average

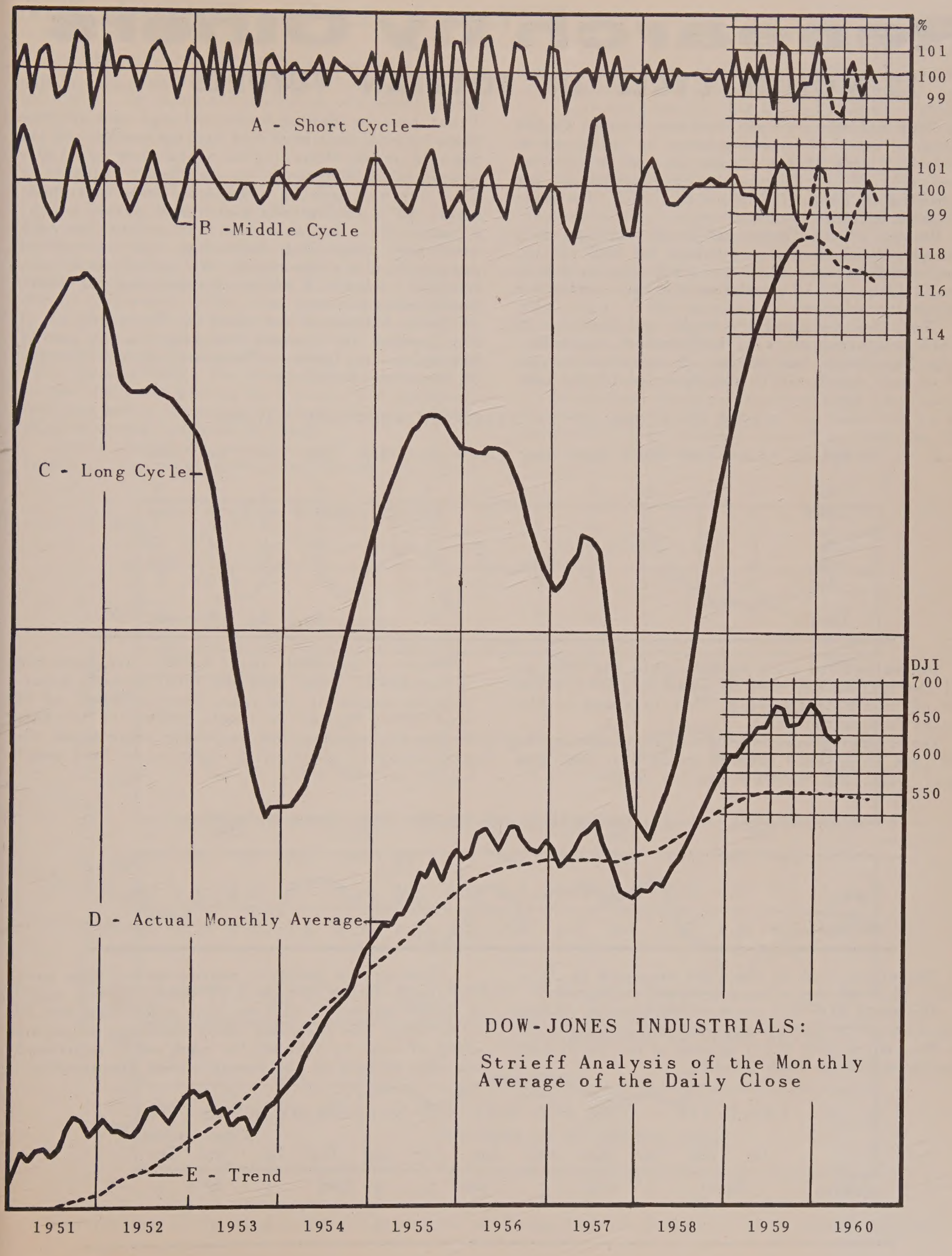
March	614.70	Actual
April	621.86	Estimate based on 18 Market Days
May	628	Extension
June	625	Extension

These values are not a forecast. They are the result of a reasonable extension of the four parts developed by the Strieff analysis. A reasonable extension is not necessarily a correct one. For example, the downturn which is shown for the long cycle may not develop. Who can say?

Note also, the Strieff analysis is just one approach. Last month we discussed the one-year per cent curve. If the above monthly values are added to the one-year per cent curve shown last month, the curve develops as shown on the chart below by the broken line. Again, this extension does not appear unreasonable. But again, all the previous qualifications also apply here.



Of course, we are not in the business of forecasting the market. Nevertheless, once a pattern for past behavior is shown, the extension of the pattern and the resulting conclusion are, for all practical purposes, inevitable. Although we cannot avoid a prognosis, do not forget to evaluate all the other symptoms, also, too, and in addition!



DOW-JONES INDUSTRIALS:

Strieff Analysis of the Monthly Average of the Daily Close

Research by Others

A 12-MONTH CYCLE IN SOYBEAN FUTURES

By Gustav Gumpert

Your article on cash soybean prices in the February issue of *Cycles* prompts me to report on a study I made of the cycles in soybean futures contracts. My work covered a 10 year period and appeared to show a 12-month cycle in the price of these options.

Because of the discontinuity of the figures, I considered all the January values for each option, then the February values for each option, and so on, in terms of highs and lows for each particular option in each year.

The study measured the highs and lows for 10 years in options expiring in November, September, July, May, March, and January. A value was assigned to each month within the duration of the contract by considering how many tops and bottoms were made in that month of the option during the last 10 years. Thus, if no highs were made in a given month, that month was assigned a value of 0. If a top was made, a value of +1 was assigned, while if a bottom was made in a given month, a value of -1 was assigned. The values for each month were then added. Where both tops and bottoms occurred in a given month, the values were subtracted to leave a value representing the dominant tendency.

Table 1 records the results. The value of -1 for January for November options is the sum of the values assigned to November options for the 10 Januarys considered.

TABLE I - SUM OF 10 YEARS OF ASSIGNED VALUES

Option	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Nov	-1	-1	0	-1	1	-1	2	-1	0	-1	3	0
Sept	0	1	0	-1	1	-1	4	0	-3	0	2	-3
Jul	-1	1	0	-1	1	-1	0	0	0	0	0	1
May	0	-2	0	0	2	0	1	0	0	-1	-1	0
Mar	0	-1	3	0	0	-1	1	-1	-1	0	1	-1
Jan	1	1	-1	-1	0	0	2	-1	0	-1	0	0
Totals	-1	-1	2	-4	5	-4	10	-3	-4	-3	5	-3

The values for each month within the life of all the options may then be added to give a value for any month of the year. This is shown in the bottom line on the table.

These values suggest that July is the month for tops in soybean futures contracts, and that April, June, and September are low months.

Another approach would be to calculate the percentage of total tops and total bottoms occurring by months of the year. Thus, a total of 60 tops and 60 bottoms were made during the 10 years in the six options. The following table shows the percentage of these which occurred in each month of the calendar year.

TABLE II - PERCENTAGE OF HIGHS AND LOWS BY MONTHS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Tops	1.8	10.3	5.2	1.8	12.0	1.8	31.0	10.3	5.2	1.8	15.4	3.4	100.0%
Bottoms	3.4	10.3	1.7	8.6	3.4	8.6	13.9	15.6	12.0	7.0	5.2	10.3	100.0%

Therefore, 31% of the tops occurred in July, while 15.6% of the bottoms occurred in August.

The month with the greatest percentage of tops accompanied by the lowest percentage of bottoms is May, which your study showed to be the highest average month for cash prices.

Although the greatest percentage of tops have occurred during the past 10 years during July, a large number of bottoms have also occurred in that month. The following table shows the relationship of tops to bottoms for each month expressed in odds reduced to the lowest common denominator.

TABLE III - ODDS FOR TOPS AND BOTTOMS BY MONTHS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tops	1	1	3	1	7	1	3	2	3	1	3	1
Bottoms	2	1	1	5	2	5	1	3	7	4	1	3

THE HUTNER CYCLE ANALYSIS

In the March issue of *Cycles* we published a chart, "The Hutner Cycle Analysis" of optimism and pessimism. Optimism and pessimism are merely words used to mean "good" times and "bad" times.

Dr. Hutner's chart was first published in the *Annalist* for June 13, 1940. Because of the interest created by our March story, the original Hutner chart is reproduced below.

The broken line in the chart, 1854—1968, shows the composite of three cycles, an 11.14-year, a 9.93-year cycle, and a 3.35-year cycle.

All three cycles are smooth rolling curves, rather than zigzag. Also, the 11.14-year cycle is skewed (lopsided) rather than symmetrical in shape.

In the *Annalist* article the composite of the three ideal cycles was compared by Hutner to a "Modal Index of Business Activity" for the period 1854 through 1939. The Modal Index developed by Hutner and used by him as a basis for the cycle analysis was a composite of four separate indexes which measured business activity.

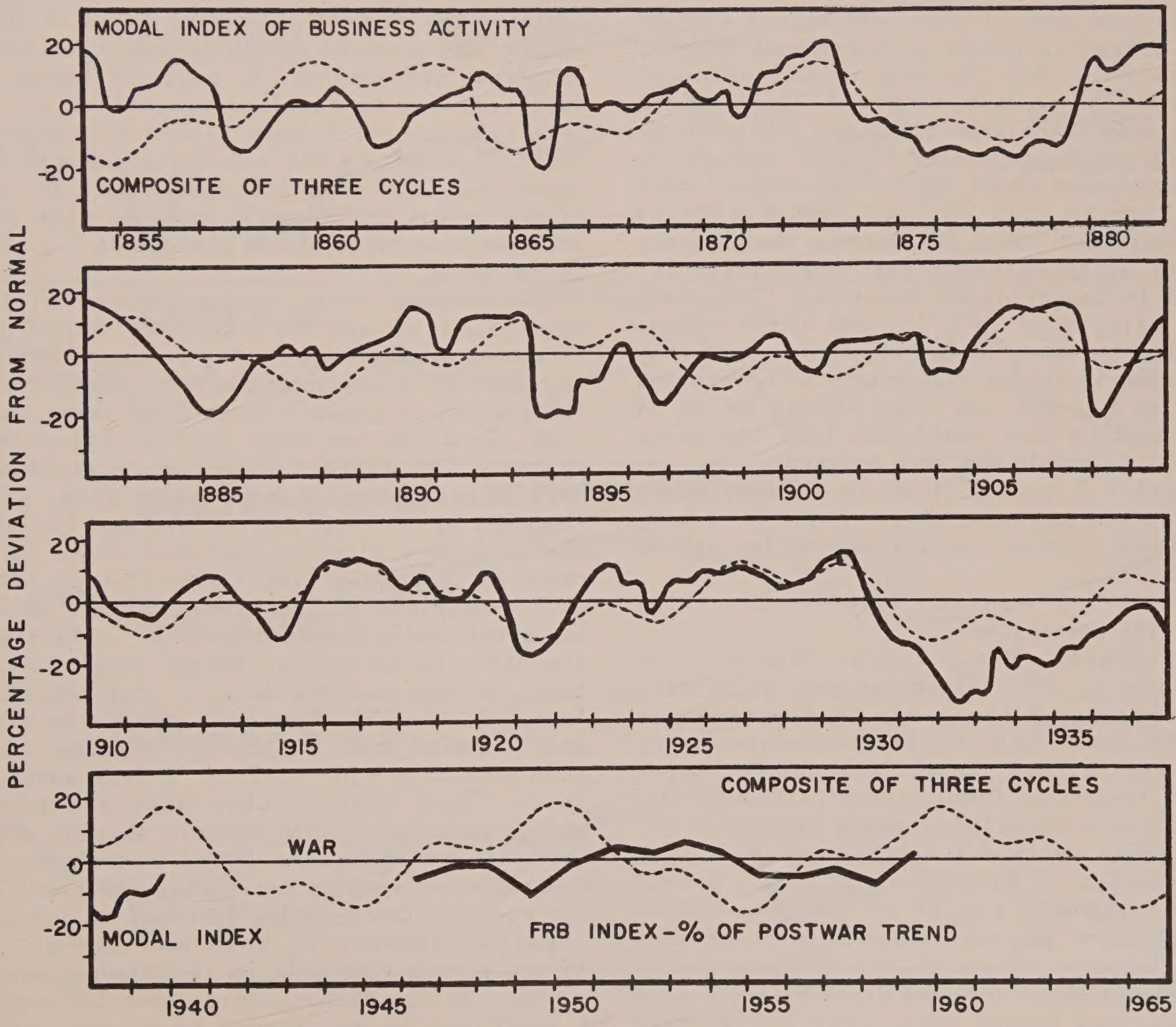
Twenty years have passed since the last actual figure of the modal index was plotted, but these twenty years have included a large scale war with its attendant war and postwar dislocations.

It is not possible for us to bring Dr. Hutner's Modal Index up to date. However, we can make some comparison of the cycle composite with actual experience by using the Federal Reserve Board Index of Industrial Production. The solid line which begins in 1946 on the chart is the F.R.B. Index of Industrial Production expressed as a percentage of the postwar trend (1946—1959).

The 1949 low does not fit the composite pattern, but 1949 may be a part of the postwar distortion.

When a repetitive pattern is broken by a major war, even if the pattern is fundamentally right, actual behavior may not immediately return to the previous pattern. Whether a return to prewar patterns occurs can be decided only by comparing the two curves over a period of time.

Since the recovery from the 1949 low, actual behavior has tended to conform somewhat to Dr. Hutner's "ideal" pattern—enough so that the comparison is worth watching in the future. G. S.



The Hutner Cycle Analysis: A Composite of Three Cycles Compared to Business Activity

MORE CYCLES IN CONSOLS*

By John F. Danson

In *Investors Chronicle,* June 20, 1959, there was published a most able and interesting article by Mr. E. H. McDougall, entitled "Cycles in Consols." That article took a further step in forecasting the probable course of the price of Consols.

The technique used was that advocated by Messrs. Dewey and Dakin in their book *Cycles— The Science of Prediction,* (1947), which showed that rhythmic cycles could be isolated from a time series, and that those that were considered to be true cycles (not attributable to chance and likely to continue) could be projected forward to give some indication of what was likely to happen.

This was followed in 1948 by an article in the *Financial Times* by "Rhythmist" entitled "Rhythmic Movements in Consols." This isolated three cycles in the Consols series, and added the 54-year cycle previously isolated by the Russian economist, Kondratieff, to carry the forecast beyond 2030. This forecast has proved remarkably accurate so far. Mr. McDougall's article brought these cycles up to date.

For some time past, I have been making a study of a time series of yields on Government Stocks, which is no more than the mean annual price of Consols from 1753 to date, inverted. These prices of Consols were taken from the table published in *Investors Chronicle,* September 5, 1953, brought up to date. Government stock yields so obtained were extended back to 1731 by using the yields of various Government bonds, Debentures and lottery bonds. Many of these bonds were eventually incorporated in Consolidated Annuities (Consols), when they originated in 1751, and these yields can be linked to those shown by Consols after that date. By again inverting this series of Government stock yields, we get the mean annual price of Consols linked to what would have been the price of Consols, if Consols had then existed.

This series I have plotted in a logarithmic curve on the accompanying chart, Curve A. I have found evidence, so far, of fifteen cycles in the series, having a length of four years or over. Some are long cycles, others short. Some have large amplitude, some small. Most appear to be real continuing cycles, but some are doubtful. I must here emphasize that the results I have obtained must be considered to be approximate only, and much more work must be done to ascertain the most accurate length, timing, and amplitude of each cycle, that can be squeezed out of the data.

To make this forecast, I have selected ten of the fifteen cycles having the largest amplitude, and which seem to be true cycles, likely to continue. These ten cycles, ranging in length from 62.6 to 8.4 years, have been amalgamated (synthesised), and their synthesis is Curve B on the chart. I have extended this curve to the year 2036 to cover the forecast made by "Rhythmist."

The original data, shown in Curve A, have been adjusted for the result of this synthesis; that is to say, these ten cycles have been removed from the data, and the residue left plotted on the chart as a dotted line, marked Curve C. This residue contains the general underlying trend of the whole series, undiscovered cycles, errors in calculation, artifacts and randoms. To minimize these irregularities, and to enable a projection to be made into the future, I have fitted a trend line to Curve C, shown as the solid line, Curve D. This trend consists of a 156-year sine cosine curve of the values in Curve C, combined with a rising straight line trend having a slope of 7.2 per cent, in 200 years.

As a final step, the synthesis of the ten waves, Curve B, and the calculated trend, Curve D, have been combined, and this combination is shown as, Curve E, which has also been extended to 2036. The portion of Curve E after 1958 shows the forecast. To study how much this artifically built up curve (E) differs from the original data, I have superimposed upon it the data, Curve A, smoothed by a 3-year moving average (to minimize the randoms a little), and have shown it on the chart as the dotted line, Curve F.

A comparison of the curves E and F shows that the artificially produced curve E, is fairly representative in direction, though less so in amplitude, of the smoothed data, F, for the 200 years from 1731 to 1930. From 1931 onward the direction still remains good, but Curve F diverges in amplitude much more widely. This, I feel sure, is due to the fact that at this date a fundamental change took place when Britain finally abandoned the gold standard and based its currency on a controlled economy, substituting political control for economic control. The forecast is likely to be impaired greatly by this new factor, though it may remain some help in forecasting direction.

Some of the discrepancies seen between Curves E and F can be attributed to randoms caused by passing events. For example, the all-time low in

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*From *Investors Chronicle,* November 13, 1959. Reprinted with permission.

John F. Danson, M.A., F.C.A., was born in Rangoon, Burma in 1895. After one year at Oxford, he joined the Royal Engineers in the ranks in August, 1914, landed with the British Expeditionary Forces in France, and served from the Battle of Mons to the Armistice. Commissioned in 1916.

M.A. in law from Oxford, and a Chartered Accountant. Worked with a family business of East Indian Merchants in Rangoon until 1937. Served five years in World War II in the Royal Navy Volunteer Reserve and was a Lieutenant Commander when demobilized

On retirement began studying stock market trends and indices, and became interested in rhythmic cycles in 1956.

1797 was caused, not only by the action of the cyclic forces at work, but also by the gloom engendered by our loss of control of the Mediterranean, the jeopardy of our rich trade with the West Indies, the Irish insurrection, and an acute invasion scare.

On the other hand, the close correlation between the curves around the peak of 1896, shows that the high price at which Consols then stood can be fully accounted for by the cyclic forces at work, and not, as some have thought, by so much savings accumulating, with Consols as the only safe buy.

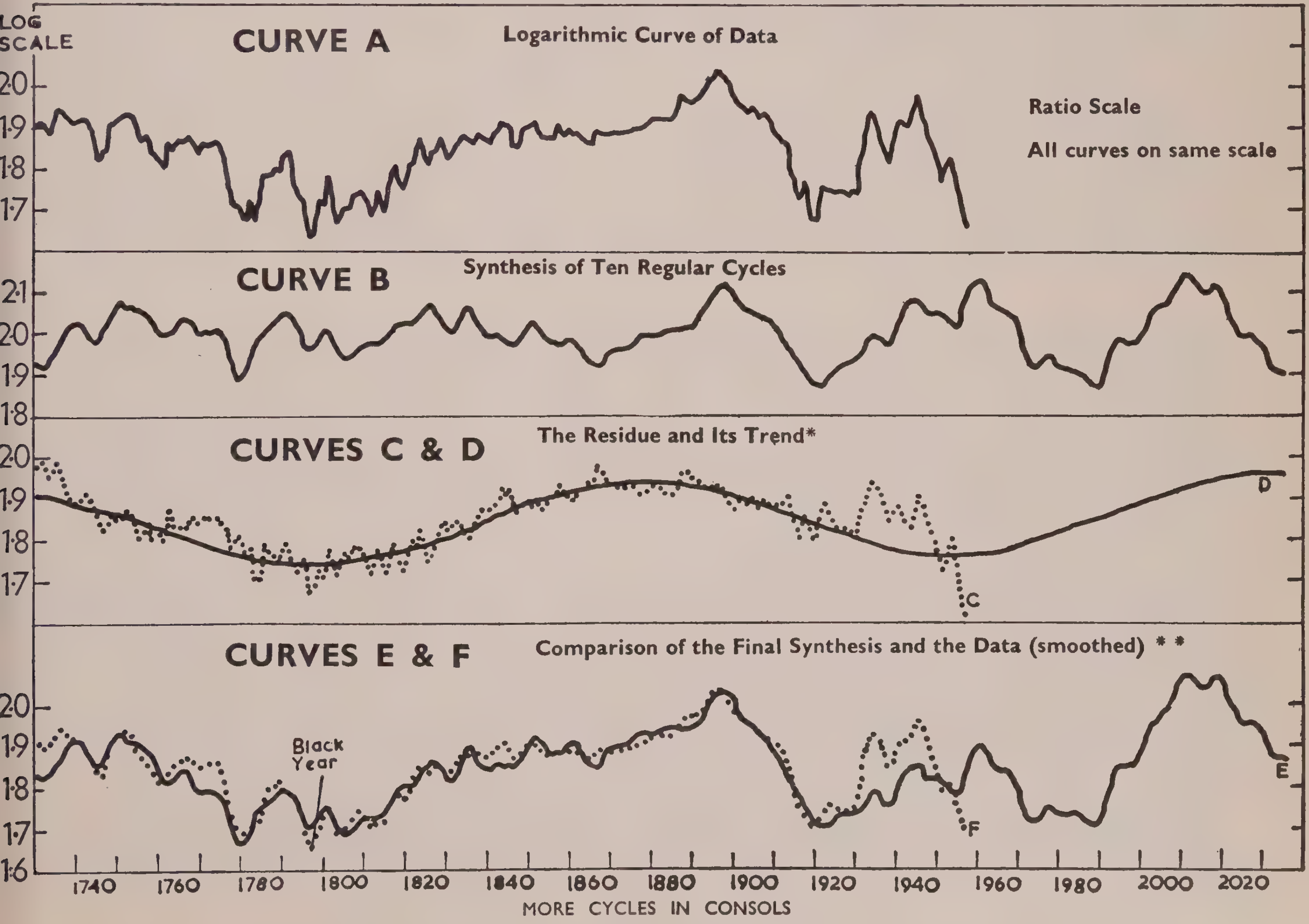
The period before 1890, mentioned both by "Rhythmist" and Mr. McDougall, where the trend of Consols was so flat that the cycles they were studying were not apparent, can be largely accounted for by the interaction between (a) the great Kondratieff cycle of 54 years; (b) another great cycle of about 63 years and even greater amplitude, and (c) the resultant of the still longer cycles hinted at in the trend, Curve D. These very long cycles cannot be isolated from the trend of a time series of this length. The interaction of these three cyclic forces goes far to explain the reason for the flatness of the trend in the mid-nineteenth century.

A comparison between "Rhythmist's" forecast and Curve E shows quite good agreement for the times of the main peaks and troughs. Both forecasts show a peak in 1945, a low in 1955, a peak around 1961, a low around 1990, a big peak around 2010, and a low after 2030. "Rhythmist's" forecast also shows a peak around 1970, but Curve E does not. However, as I have mentioned above, my figures must only be taken as approximate, and further I am of the opinion that my forecast curve is likely to be badly distorted by the new era of a controlled economy, which started in the early 1930s.

A CYCLE ANALYSIS OF THE MEAN ANNUAL PRICES OF CONSOLS FROM 1731 TO 1958

(Calculated on a 2½ per cent. basis throughout.)

Sources : 1731–1752, *calculated from yields on pre-Consols Loans.* 1753–1958, *" Investors Chronicle " table of prices and yields brought up to 1958.* *" Investors Chronicle," September 5, 1953 issue.*



* Curve C : Residue of Curve A after extracting Curve B. Curve D : Calculated trend of Curve C.

** Curve E : Trial synthesis of Curve B with Curve D. Curve F : Data in Curve A smoothed by a three-year moving average.

THE 31–MONTH CYCLE IN DISTIMMING DOSHES

By William Sell

Records of the monthly distimming of doshes was recently obtained from the Gostakian consul, and a preliminary study indicates a definite 31-month cycle, the shape of which indicates that there is also a shorter cycle of 15½ months.

The data was first plotted on coordinate paper and a trend line was sketched in. A 31-month cycle seemed evident, except that the high expected in March, 1934, did not show up until June of the following year. The records extend from January, 1915, to July, 1951, at which time the distimming of doshes was prohibited by law, at the request of the United Nations.

A 32-month moving average was substituted for the trend line that had been sketched in, the high and low points were reassessed, and the 31-month cycle was confirmed. The deviations from the new trend were computed for each month, and then averaged to obtain the shape of the cycle, shown below.

When this work was completed, I learned that the distimming of doshes had been under the control of a production committee, and that a quota had been assigned in advance each month. Further correspondence with the consul brought to light a somewhat unusual arrangement.

The consul informed me that, to determine the monthly quota, the chairman of the committee would toss four coins. If four heads were thrown, the preceding month's production was increased by 2. If three heads, by 1. If two heads, by none. If one head, the distimming was decreased by 1. And if no heads were tossed, decreased by 2.

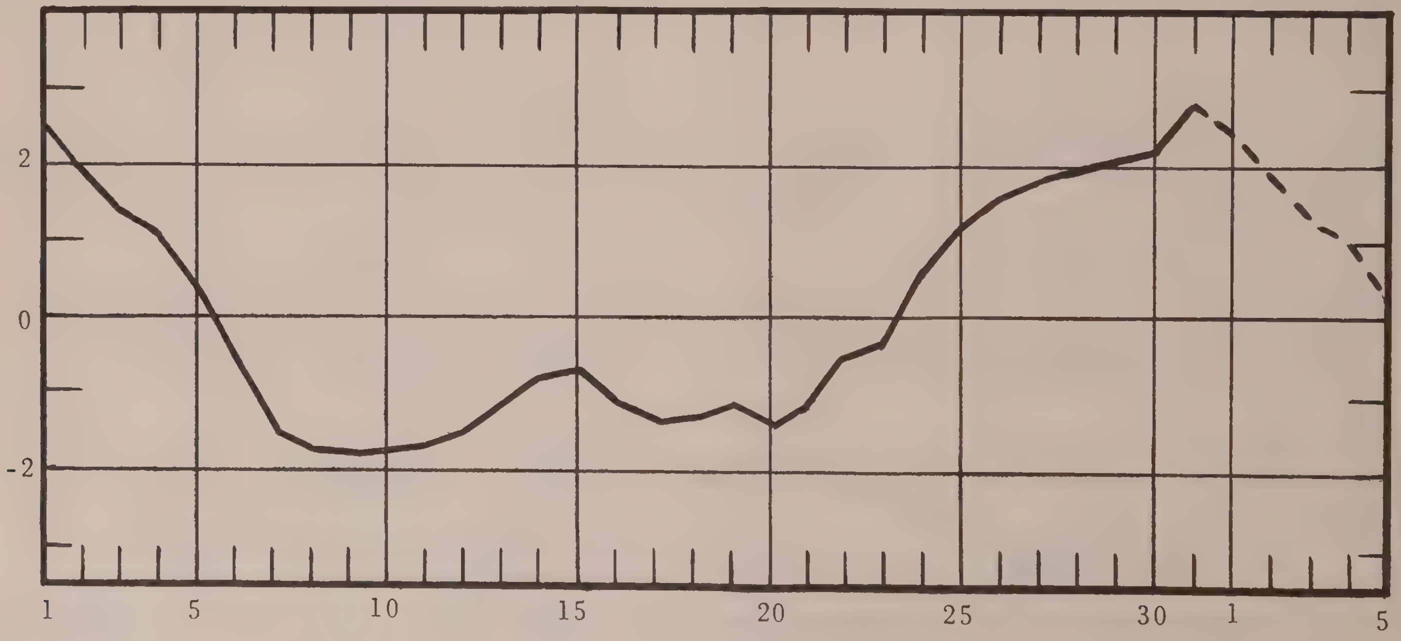
However, the workmen had ideas of their own. If the distimming for, say, June had shown an increase over May, their enthusiasm made them distim one more than their quota for July. If June had been the same as May, they were not interested, and merely met the assigned quota. If June had been less than May, their discouragement made them distim one less than their July quota.

Of course, there are no Gostaks, and they never distimmed doshes, except in a story by Miles J. Brewer, M.D., in *Amazing Stories* magazine in 1930. This business of tossing coins, mitigated by the presence or absence of enthusiasm, was deliberately designed by the writer to see if a cycle could be generated, not by pure chance, but by chance plus some psychology.

Evidently it can. It did in this particular case, and if you doubt it, there is nothing to prevent you from duplicating my experiment.

Opinion seems to be divided as to the causes of the fluctuations of such things as automobile production, stock market averages, population. It is possible that accidental events (chance) sets the quota, while psychological factors make the fluctuations cyclical.

On this basis, it should be possible to design a set of rules about enthusiasm, despair, hope, fear, prudence, and the lack of it, which can be used to temper the tossing of coins or the spinning of a roulette wheel, and which will produce a table showing the same cycles as, for example, egg prices. This set of rules ought to throw additional light on mass psychology.



THE 31-MONTH CYCLE IN DISTIMMING DOSHES

THE SUN AS THE FATHER OF THE WEATHER

Sam Clemens could no longer say that nobody does anything about the weather. Although a four-inch snowfall can still cripple almost any metropolis, many many people and organizations (aside from the U. S. Weather Bureau) at least *study* the weather, looking for understanding of what "makes" weather, and therefore how it can be forecast more accurately.

Accuracy in forecasting is not the only aim of people who study the weather. The length of time covered by the forecast is equally as important. Consider how helpful it would be to business and farming to know that next spring would be a generally wet, or a generally dry spring.

Or, if you knew in January that June would be a dry month and August would be a wet month, you could schedule your vacation accordingly.

Some of the most thoroughgoing work on this subject which we have in our library was done by Dr. Charles G. Abbot of the Smithsonian Institution. He spent fifty years developing his hypothesis, and his publications on the subject cover a span of over twenty years.

A large part of this work is summarized in "Solar Variation, A Leading Weather Element," (*Smithsonian Miscellaneous Collections*, Volume 122, Number 4, August 4, 1953). This paper was written by Dr. Abbot when he was a Research Associate of the Institution.

The title of the paper is the key to Abbot's main idea—that variation in the amount of solar radiation received on earth is intimately related to weather changes. The paper lists five propositions which, together with the supporting correlating evidence, are presented as a "working hypothesis."

The first proposition is that there is a variation in the sun's radiation output, and that this variation correlates with other solar phenomena.

Radiation from the sun, as received on earth, is called the solar constant. The continuous measurement of the solar constant has been a major project of the Smithsonian Institution since 1902.

From his work on his project Abbot has concluded that the amount of radiation received varies about 7%. This variation correlates with variation in other phenomena, such as solar faculae (large irregular bright patches like torches), prevalence of sunspots, areas of solar flocculi (clouds of gas), incidence of great magnetic storms, and ionosphere changes.

The second proposition cited by Abbot is that the variation in the solar radiation has a "master period" of about 22-3/4 years.

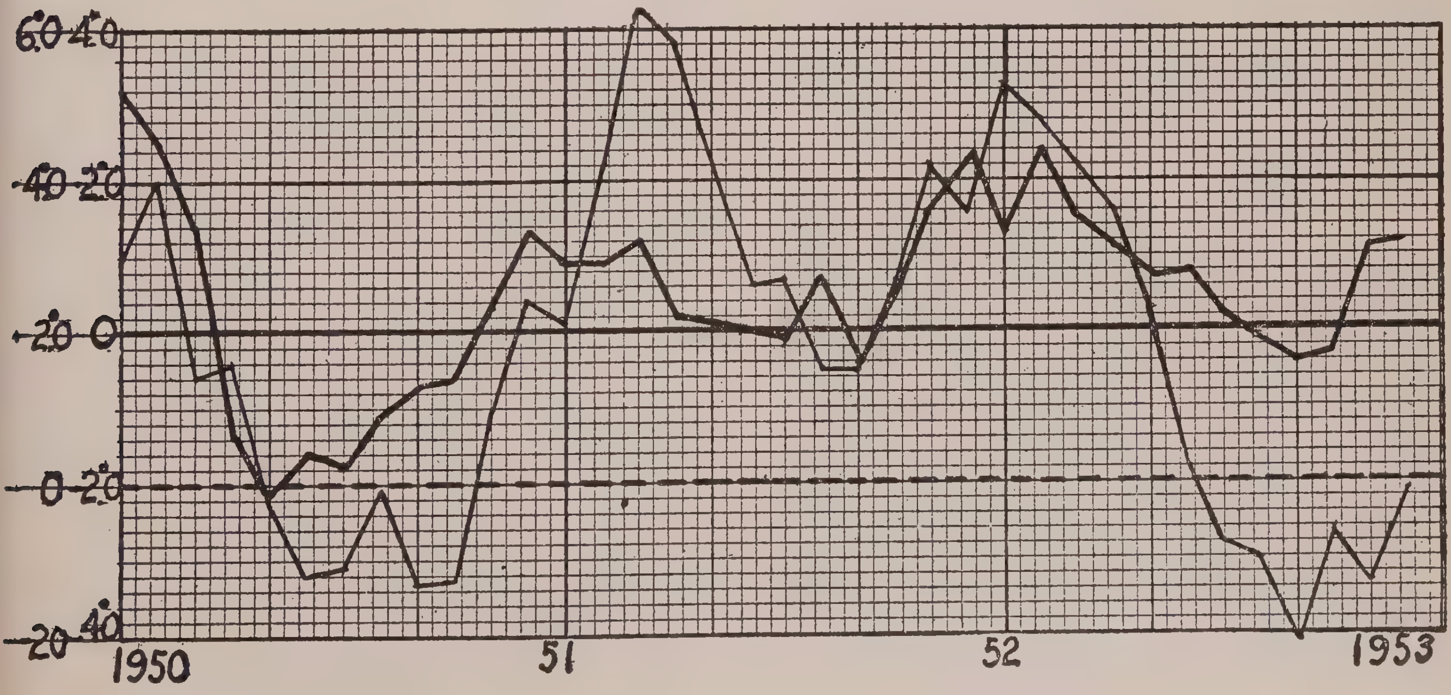
The third proposition is that integral submultiples of 22-3/4 years are regular cycles in solar variation. Abbot has found 23 cycles which fit this pattern.

The fourth proposition is that correlations exist in variations in the solar constant measures and weather that do not involve periodicities.

The fifth proposition, and the crux of the matter is that correlations exist between regular periodic changes in the solar constant and weather changes.

It all adds up to this: Abbot takes the cycles found in variation of radiation received on earth and looks for the same cycles in the weather. He finds these same cycles in both temperature and precipitation.

Then he combines the cycles found in the weather to make a forecast. The chart below shows such a forecast. G. S.



Synthetic Prediction of Washington Temperature (Light Line, Left Scale)
vs Actual Washington Temperature (Heavy Line, Right Scale)

Letters

OCEAN WAVES

Dear Mr. Dewey:

Scientific American last August had an article on ocean waves. . .

It seems to me that ocean waves have many characteristics common to those that you report on. They have the advantage of being visible and easily counted, etc. Although they may look easier, I am sure they are just as complex as one could want...

In your field, I am sure there are parallels to ocean waves in the effect of bottom, depth, and artificial obstructions like breakwaters. Is it not possible that in economic applications cycles are also affected by "breakwaters". . .like the Federal Reserve System in the banking area?

I suspect that your cycles are complicated, and that authentication depends on both the object being observed and the place where the happening occurs. In other words, the significant factor in tidal action in the Bay of Fundy is the bay itself.

Aren't cycles a matter of place as much as time? Are we not sometimes misled by "lengths" when we ought to pin them down more as to place? It seems to me, that *time* has less meaning by itself, and to be complete, the phenomon has to be related to place: time, place, matter.

Greenwich, Connecticut — Roger Edson

Comment: There is much similarity between ocean waves and the cycles we study, except that waves are not supposed to contain periodic elements.

The waves we deal with are certainly distorted from time to time, but I am not yet sure that this distortion is in the nature of breakwaters.

As you say, cycles are definitely a matter of place as of time. A cycle crests a little later each year as it is found from either pole toward the equator. The slippage amounts to about 70% of the length of the cycle from pole to equator.

E. R. D.

WEATHER

Dr. Charles G. Abbot of the Smithsonian Institution has ventured a forecast of rainfall into 1967 for 32 specific cities.

For the country as a whole, Dr. Abbot says that 1960 will be "well-watered." 1961 will have a normal amount of precipitation, but dry conditions will prevail in the winter and early summer of 1962.

Several members, including F. G. Wilke and J. H. Bruening sent along the newspaper clippings of the March 22 press release about Dr. Abbot's predictions.

A copy of the Smithsonian paper which discusses the eight-year forecasts for each of the 32 cities can be purchased for $1.25 from the Smithsonian Institution, Washington, D. C.

Dr. Abbot's forecasts cover rainfall for each month, and also show four month averages for the use of farmers.

The forecasts are stated in terms of departures from normal expectations.

The theory behind the forecasts is discussed in the article on page 133 of this issue. It is only fair to point out that many weather experts are suspicious of Abbot's long-range predictions because they are not based on the study of current weather patterns, but rather on the cycles in the change in the amount of solar radiation received.

It is more usual for meteorologists to study prevailing highs and lows, and winds, etc. However, Abbot's record in the past for long-range forecasting has been pretty good. He believes the chances of his being right this time are about 6 out of 10.

DEMOCRACY

Dear Mr. Dewey:

I feel that I must take issue with your comments on "Democracy" and our system. I certainly am proud of our system of government and not because it is based on the wisdom of the "average" man. Its greatness lies in the push and pull of minority groups and the fact that none of these are able to dominate the rest.

Admittedly, some of these groups are quite powerful and this sometimes results in the exploitation of other groups, but in our past such ascending has proven only temporary and I can think of no other system providing so much protection to all minority groups.

Also, it seems to me, you are advocating ascendency of the "superior" man which is certainly a very nebulous idea. How would you designate who qualifies as "superior," and even if you could, how could you be sure that this group would be so enlightened as to minimize their own selfish desires for the good of the whole? Who are your leading citizens? The property owners? This might give the farmers even more power than they have now. The educated? I seriously doubt if the proportion of college graduates that are prejudiced or self-centered is any less than for any other group. By political influence? This group already carries perhaps too much weight and it's a good thing that we have pressure groups to control them to some extent. . .

I am vain enough to consider my ideas on government to be "superior." But I certainly do not consider that there is any group of enlightened that would not abuse their power if given it.

In closing, I would like to thank you and your associates for a very interesting work on one of the last frontiers of economic and social research.

Westburg, Long Island — Campbell A. Harlan, Jr.

Comment: I enjoyed your thoughtful and constructive letter of March 30th. I agree with almost everything you say.

I do not know of any system of government under which I would rather live than our own, unless it be our own when there was less of it!

I agree as to the difficulty of selecting the superior man. I agree that given power, the superior man is just as likely to be selfish and self-centered as the inferior man.

However, much as I love my country, and (relatively) admire our system, I see—or think I see—faults. And I think it worthwhile to note these faults and to ponder possible improvements.

My bias in favor of the more intelligent citizen is not that he is less selfish, but that his selfishness is likely to be longer sighted.

Moreover, I dislike the increased regimentation that we are experiencing.

I see—or think I see—danger ahead in the path we are following. E. R. D.

CYCLES

Dear Mr. Dewey:

There is evidently some external influence on life, in the way of radiation, which is cyclical, and perhaps something cyclical in the response which life makes to that influence. Inasmuch as radiation can affect heredity, and even destroy us, it would seem to be an efficient cause of many changes in us. The evolution of the eye has been governed by radiation, why not the brain, the nervous system and man's emotional apparatus? All forms of life have come from something out there in the cosmos. To think of the evolutionary process once life has made its primitive beginnings, as being solely governed thereafter by earthly means, seems to me a very unscientific way of looking at things.

A social scientist, for example, who would discount the importance of radiation on how we think and feel, seems to me not yet free from the old anthropocentric view of the universe. . .

Auburn, Maine C. F. A.

* * *

Dear Mr. Dewey:

Those of us who believe that we are subject to natural rhythms, or cyclic forces, realize what an important work you and your associates are performing in endeavoring to isolate the cyclical behavior of these forces.

But when one tries to sell the idea the response is one of vague interest because it seems that the subject is more theoretical than practical. At least that has been my experience.

It might be worth considering inserting more facts concerning the cyclical nature of the basic industries affecting our economy.

Your synthesis of stock prices always seems to create a great deal of interest, as does your trend of industrial production, your Director's Letter and the Geisinger Indicator.

Therefore, I suggest a method which may be opposite to your way of thinking.

It is my candid opinion that a stock index cycle synthesis of the composite prices of some of our basic industries such as aircraft, chemicals, drugs, office equipment, petroleum, paper, steel, etc., would create great interest.

Do not misconstrue the above suggestion as one to convert your publication over to a market service. Your work in other fields is just as valuable, but it is also necessary to be practical.

My personal thanks to you for your help.

Reno, Nevada R. M. Smith.

Comment: Your suggestion is a good one, and we have considered it from time to time. There are several arguments for, and several against. We expect to bring the problem up at our next meeting of the Board of Directors.

There would seem to be no reason why, if there is a certain cycle present in a composite index of a stock group, we should not report it. That is our function.

However, a cycle is not the whole of the matter, It is only one factor in the overall picture. Regardless of how we qualify the statement, if we say there is a 17-week cycle and that this cycle is presently going up, some people will read from this that the market is going up.

Perhaps our presentation has been faulty, and the concepts and conclusions could be better worded. We do desire to supply our members with the information that they want, and appreciate your idea. E. R. D.

BODY RHYTHMS

The best time of the day to take a drink, according to science, is the early evening cocktail hour!

The research of Dr. Franz Halberg and associates at the University of Minnesota leads to the conclusion that man is perhaps best able to tolerate alcohol as the day fades. Then his chances of getting a hangover increase with each hour.

Grindon & Company of Springfield, Illinois sent along a clipping from the *Saint Louis Dispatch* of March 31 which reports that this is so.

Halberg found that mice can best burn up alcohol in the early morning, which is the evening of the mouse day. (Not because these mice were tipsey, but because mice are nocturnal animals.)

Man also, because of body rhythms in gland function and cell growth, may have a "best time" for operations, taking drugs, or even drinking.

COSMIC RAYS

Cosmic rays in the space above the atmosphere move at great speeds in blizzard-like storms. There is a cycle which seems to move with the sunspot cycle in the blizzards of these atomic nuclei.

The University of Minnesota sends huge balloons aloft to track the intensity of the cosmic storms. The nuclei as they exist in space never reach the earth, but they produce secondary fragments that hurl earthward at such velocity that they can be detected even underground.

At the time of the last sunspot minima the storminess of cosmic ray action was two to three times as great as at the recent maxima.

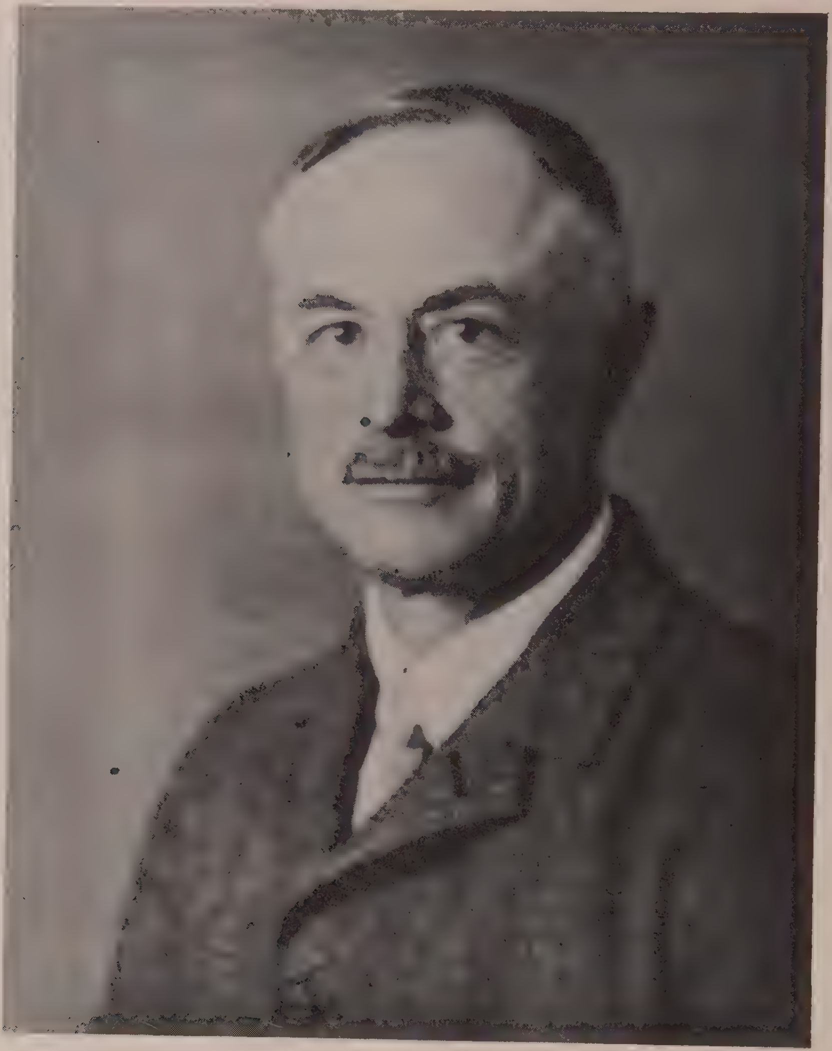
Cosmic rays are believed to come from outside of our solar system.

—From the *New York Times*, March 13, 1960,
in a clipping sent by Leonard W. Wing

COPLEY AMORY, 1866–1960

Copley Amory, of Boston, was the grandfather of the Foundation for the Study of Cycles. It was he who convened the First International Conference of Biological Cycles at his Canadian home on the Matamek River in 1931. It was he who was appointed chairman of its Permanent Committee. It was he who effected the reorganization of this committee into the Committee of the Foundation. It was he who became its first chairman. It was he who gave the $500 with which we got going.

Born on June 4, 1866, Mr. Amory died quietly in his sleep at eight o'clock Saturday evening, April 16, 1960. His death is a great loss to his family, his friends, and to the Foundation.



COPLEY AMORY

I wish you could have known him. It would have been a rare experience. And, if you have any interest at all in the Foundation, he would have been equally happy to have known you. The Foundation was very close to his heart. In fact, he once told a mutual friend that he planned to leave the Foundation $1,000,000, but I suppose he never got around to it, or if he did, that he had to change his will to take care of others whose needs were more pressing. At one time, I happen to know, he was supporting 29 people!

It was Mr. Amory who suggested to President Taft the appointment of Cameron Forbes as Governor General of the Phillipines. Mr. Forbes later became Ambassador to Japan. He was a member of our Committee from 1940 to his death last year. I have often wondered if Mr. Forbes ever knew who got him his appointment. It would be like Mr. Amory not to let him know.

Mr. Amory was a cousin of President Roosevelt, and in the early days used to discuss the Foundation with "Franklin." Mr. Roosevelt suggested that details of organization be worked out with his uncle, Mr. Delano. This was done. Doctor Abbot, at the time Secretary of the Smithsonian Institution, was appointed to our Committee at the behest of Mr. Delano. Doctor Abbot was to provide our Board with informal representation from the U. S. Government.

It was Mr. Amory who, through his acquaintance with President Butler, effected the nebulous affiliation we once had with Columbia University. Both Mr. Amory and I had hopes that something of mutual benefit would grow from this association, but it proved to be sterile. Columbia was too big or we were too small—or something!

When I first knew him (in 1940) Mr. Amory had four homes—his place on the Matamek River in Canada, his four story home at 1811 Que Street in Washington, a place in Warm Springs and another in Charleston, South Carolina. I knew only the one in Washington and another he acquired later at Charlestown, New Hampshire.

You would have enjoyed the meticulous order and condition in which he kept all of his possessions. His gun collection, for example, or his tools, or his harpoons and other whale fishing equipment. You would have enjoyed his fabulous prints. Or his great library, three sides of which were completely lined, except for doors and windows, with row upon row of leather bound books. The fourth side used to be filled with the magnificent family portrait done by his relative, John Copley, the artist. Later, I believe, he gave or lent this picture to the National Gallery. You would have especially enjoyed, I think, his lifetime collection of early American maps. All of them were at least 100 years old, many 200 years old, and one was engraved in 1580, three hundred and eighty years ago!

When he gave up his Washington home a number of years ago, Mr. Amory gave this map collection to me. I must tell you a little story about it. Two years ago; when I was in California, I went to call upon an old friend of mine, Carl Wheat, and found him writing a five volume history of the conquest of the west. I noticed many old maps around and mentioned the collection that Mr. Amory had given me. "What!" said Carl. "You don't mean to say that a bum like you has the Amory collection? Why, there are only two places in the world that should have that! Either the Bancroft Library in Berkely or the library at Yale." But I still have it as one of my most prized possessions, and I expect to keep it until I die. I'll show it to you sometime if you come to visit me.

Generally Mr. Amory called me "my dear boy." Sometimes I would gently remind him that I was over 40 or 50 or 60, but he would always say, "Humph! A mere child!" When I visited him and would go out, he would say, "If you get into any trouble with the police, let me know and I will do what I can for you." When I would leave he would always accompany me to the station. "You might get lost!" he would say with a twinkle.

Mr. Amory loved being whimsical. The animals used to talk to him every day. For instance, after a visit to his Charlestown home, where he had all sorts of livestock, he would write, "All the little pigs asked me about you today. They wanted to know when that nice man who was here last week was going to come to see them again. The little one with the white spot was especially solicitous. He said he hoped your health was good, and so do I."

He was the best informed man of my acquaintance. For example, I remember going with him to call upon the paleontologist of the American Museum of Natural History. I don't remember that the paleontologist could answer any of Mr. Amory's questions, but I do remember that he., the paleontologist, soon realized what a find he had in Mr. Amory. He turned the tables and started asking Mr. Amory questions, all of which Mr. Amory was able to answer. This experience was only one of dozens.

Mr. Amory believed in family breeding. What's good for animals and plants should be good for human beings. I always thought that I went up a peg in his estimation when he learned that I was a great-great-great-etc. grandson of Governor William Bradford of the Mayflower Colony. "As your ancestor, Governor Bradford, once said. . ." he would often quote. Of course, he knew far more of Governor Bradford and his sayings than I did, or ever will.

He had lived among the Indians and the Eskimos and knew their ways. "They aren't too fussy with their cooking," he once said. "They boil corn meal and bear fat in a big cauldron and they don't much care what else in the way of leaves and twigs and hair, etc., gets in, but it's pretty good if you're hungry enough." Or, "You have never been hungry. I haven't often been hungry myself, but once on a trek I had to go days [I forget how many] without food and I think I know what hunger really is." Or relative to some housing problems, "Better men than either of us would have been very grateful for a tent or a wigwam."

Once he said, "The young people of today are not up to those of my day."

"What is the difference?" I asked.

"The young people of today take all the good things—even life itself—as their *right*. The young people of my day realized that no one has *any* rights, except as, one way or another, he is able to create them."

I suppose I could go on reminiscing, but I may already have given you a glimpse of his personality. If so, that is probably all I can hope to do. He was the Foundation's best friend, and my best friend as well. They don't make them like him anymore!

Edward R. Dewey

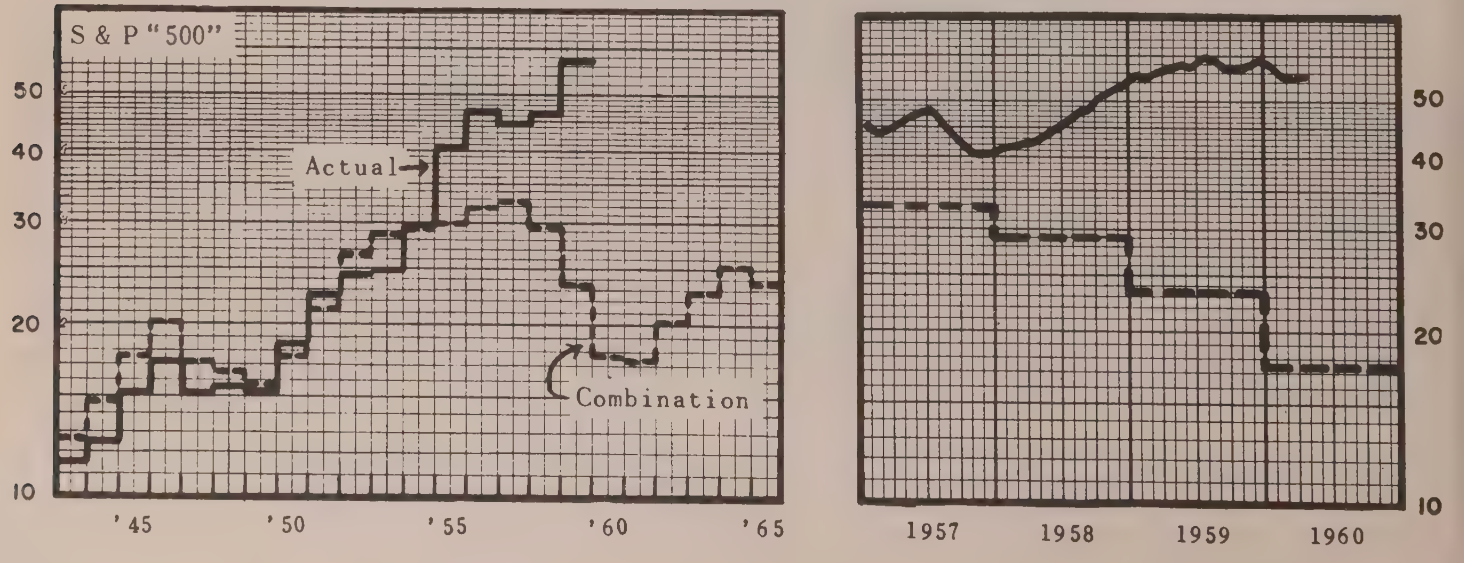
The Cycle Round-up

JUNE 1960

For those of you who follow each month any of the series regularly reported in the Round-Up, the most recent figures are given below.

Series	Unit	Month	Amount
Aluminum Production	Thousand tons	Feb	156.8
Automobile Factory Sales	Thousand cars	Feb	657r 655p
Bond Yields—Moody's Domestic Corporate	Per cent	Feb Mar	4.88r 4.81p
Cocoa Prices—Accra at New York	Cents per pound	Feb	29.0
Copper Prices—Electrolytic, New York	Cents per pound	Mar	32.61
Corn Prices—No. 3 Yellow, Chicago	Cents per bushel	Mar	113.3
Cotton Consumption	Thousand bales	Feb	731
Egg Prices—Extras, Large, Wholesale, Chicago	Cents per dozen	Mar	34.5
Hog Prices—Wholesale, All Grades, Chicago	Dollars/100 lb.	Mar	15.19
Liabilities of Failures—Dun & Bradstreet	Million dollars	Mar	70
Oats Prices—No. 3 White, Chicago	Cents per bushel	Mar	77.4
Residential Building Contracts—F W. Dodge Corp.	Million dollars	Feb	988
Shoe Production	Thousand pairs	Feb	53,403
Stock Prices—Standard & Poor's Combined Index	1941-43=10	Mar Apr	55.02r 55.82p
Wheat Prices—No. 1 D. N. S., Minneapolis	Cents per bushel	Mar	225.8

STOCK PRICES



COTTON CONSUMPTION

We isolated a 23.75-month and a 12-month cycle in cotton consumption (*Cycles*, May 1959). The two cycles were combined with an underlying trend to get a "synthesis" line which we have shown (compared to actual consumption) occasionally in the Round-Up.

At this point we are reviewing how the ideal 23.75-month cycle has worked out during the 13 months which have passed since the original work was done. Also, we are revising the underlying trend.

Figure 1 below shows the 23.75-month cycle. The broken line is the ideal cycle, and the solid line represents the cycle as it appears in the actual figures. If the performance of the cycle were perfect, the two lines would match exactly.

The last plot is at March 1959. This point includes the 11 values on both sides of it because the work is centered. The chart is up-to-date through February 1960.

The cycle has been operating fairly well. There was an ideal low due at February 1960 after which the 23.75-month cycle may exert an upward force until March 1961, the time of the next ideal high.

The combination of the 23.75-month cycle, the 12-month cycle, and the underlying trend (as revised) is shown as the broken line on Figure 2. Actual month-by-month cotton consumption is shown by the solid line. The months are four and five week months, which accounts for the sharp up and down moves.

The underlying trend was revised upward to make the projection more realistic.

The success of Figure 2 relies on three factors, and one of these factors, the underlying trend, has nothing to do with cycle analysis.

The reliability of the 23.75-month cycle can be more fairly judged on the basis of Figure 1.

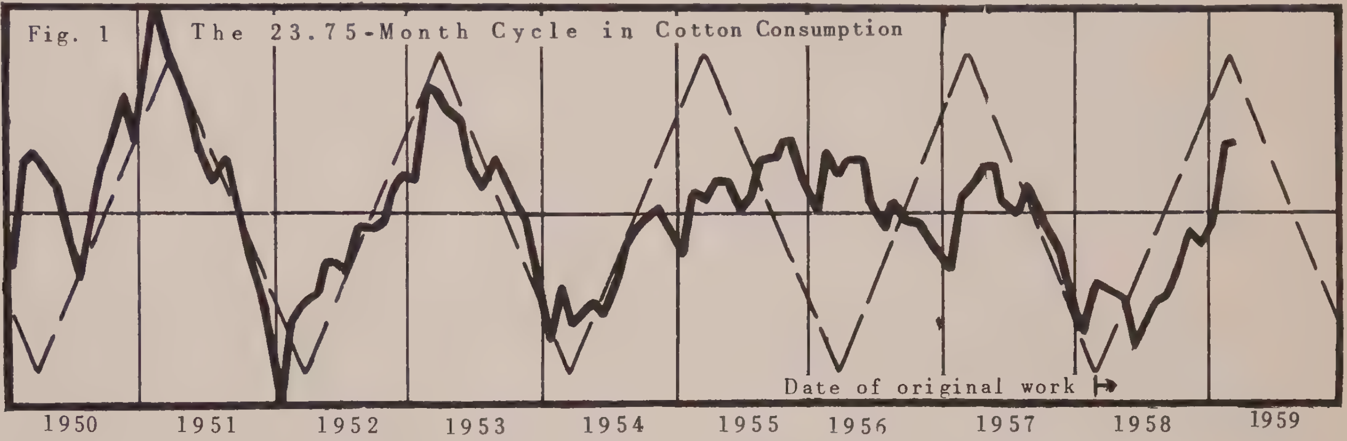


Fig. 1 The 23.75-Month Cycle in Cotton Consumption

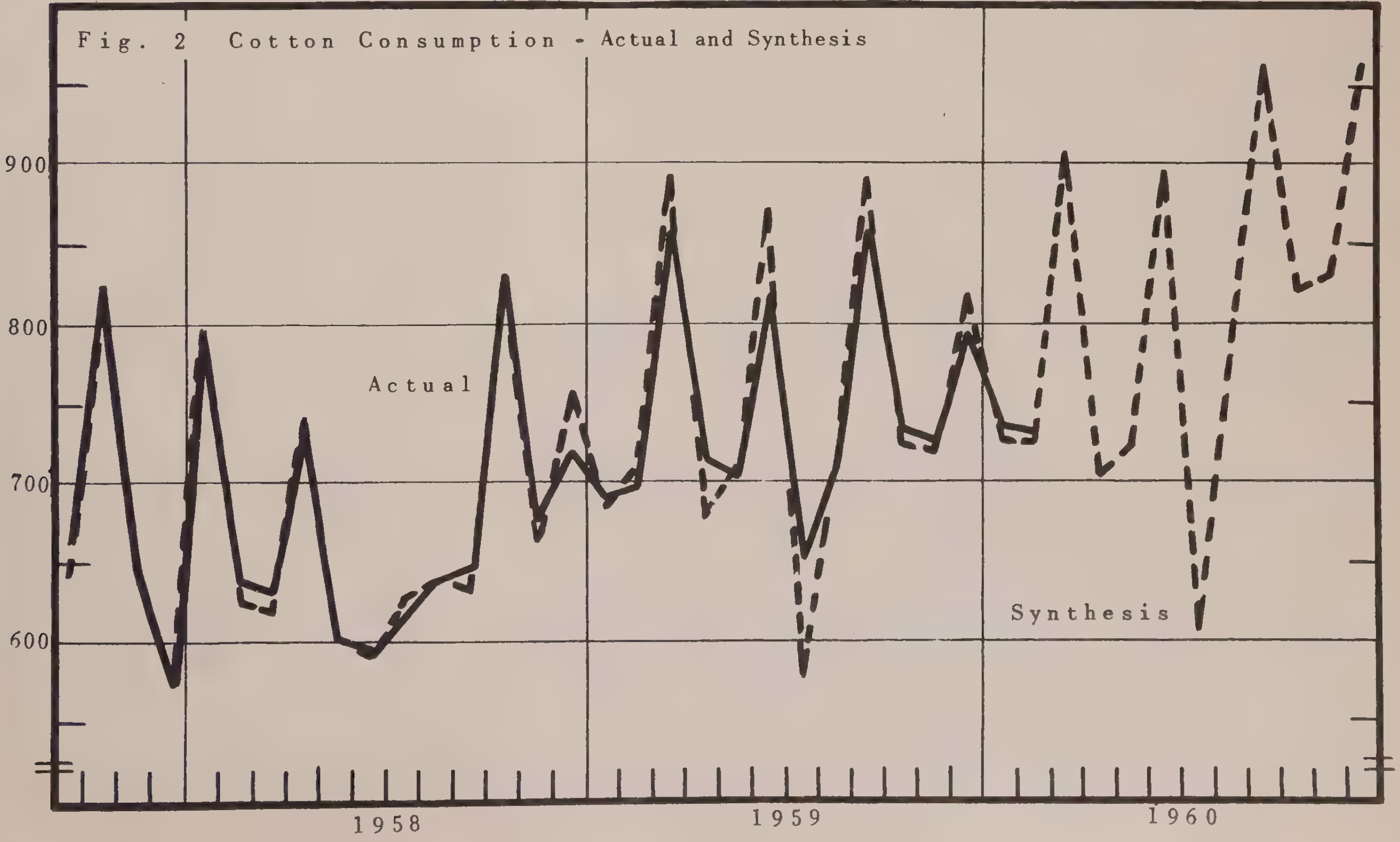


Fig. 2 Cotton Consumption - Actual and Synthesis

The Geisinger Indicator

FORECAST

The bounce-back of the Geisinger Indicator from the October low of -3.2 to the December value of -.8 is probably merely a reflection of the end of the steel strike. If this advance should get importantly into positive ground, it would be a good sign. Unless the advance becomes more marked, however, the Geisinger Indicator will continue to say "caution."

Remember that this message applies only to the outlook for physical production as measured by the Federal Reserve Board Index.

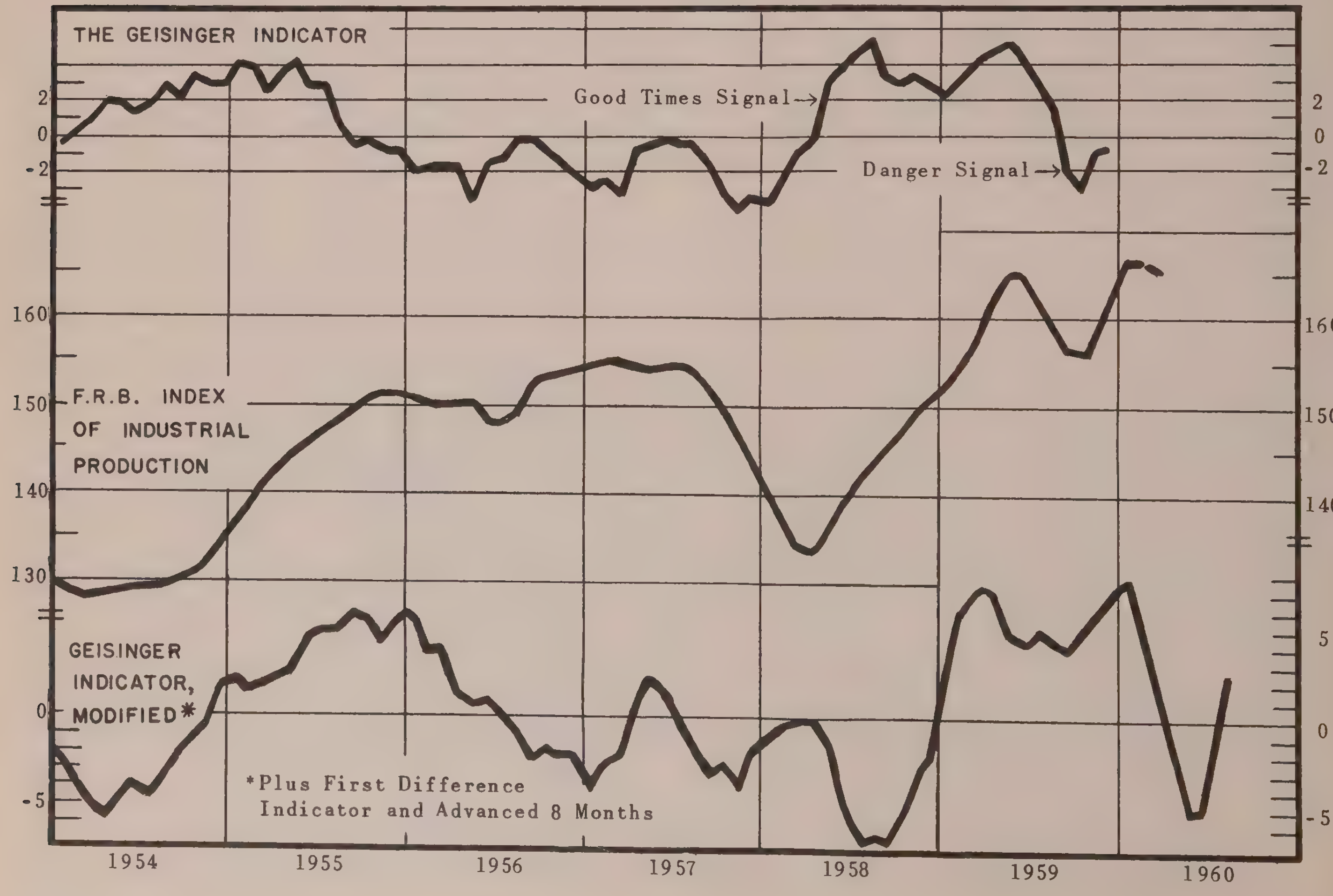
Incidentally, the F.R.B. Index declined from its post-strike high of 168 in January to 166 in February to 165 in March. This decline could be merely a reaction from the shot in the arm given by the end of the steel strike. On the other hand, it could be evidence of underlying weakness. Weakness was suggested by the Geisinger Indicator as early as the latter part of last year. (See my letter of November 25, 1959 and all succeeding letters.)

Caution continues to be the watchword.

April 27, 1960 E. R. Dewey

Month	F.R.B. Index	Geisinger Indicator	First Difference Indicator	Modified Geisinger Indicator	Timing Advanced 8 Months
Oct-1959	154	-3.2	-1.83	-5.03	1960-Jun
Nov	155	-1.0	1.00	0.00	Jul
Dec	165	-0.8	3.67	2.87	Aug
Jan-1960	168	*	4.16r	*	Sep
Feb	166r	*	1.83p	*	Oct
Mar	165p	*	*	*	Nov

p - preliminary; r - revised; * - not yet available



*Plus First Difference Indicator and Advanced 8 Months

HOW TO USE THE GEISINGER INDICATOR:

A DO—IT—YOURSELF EXPLANATION

Yesterday I was badly shocked. It was in Philadelphia. One of our members there told me that he didn't understand the Geisinger Indicator! If he doesn't understand it, maybe *you* don't. And that would be *doubly* terrible!

Do you fully understand the Geisinger Indicator? If not, the explanation I gave him may help you.

First I asked him for an old copy of *Cycles*. He gave me the one for February 1960 where the Geisinger Indicator itself is charted. I pointed out the Geisinger Indicator Curve and the F.R.B. Industrial Production Index Curve. These two main parts are charted on the next page in Fig. 1.

I asked him for a red pencil. He gave me one. I drew in a bold red line across the page at minus 2 like the line A—B in Fig. 1. (Only in Fig. 1 the line is black to save the cost of two color printing.)

Then where the Geisinger Indicator, *going down*, cut this bold line A—B, I made a check mark, as on Fig. 1. Note that I checked *every* place where, going down, it cut the minus 2 line. There are eight of these check marks.

Then I drew bold red lines from the eight check marks down to the F.R.B. Index of Industrial Production. See Fig. 2. I numbered these up and down lines for him from one to eight. I called these up and down lines "signals."

THE GEISINGER RECORD

I then called his attention to the fact that these signals had, in *every* instance, "worked." That is, they had been followed by weakness or an actual fall off of industrial production. Conversely, I showed him that there were no weaknesses of business that had not been preceded by one of these signals.

More particularly:

Signal No. 1. April 1947. This signal was not so hot. There was, however, a slight falling off of industrial production.

Signal No. 2. September 1948. This signal was followed by the decline of 1948—1949.

Signal No. 3. July 1951. This signal was followed by the softness of 1951—1952.

Signal No. 4. April 1953. This signal was followed by the decline of 1953—1954.

Signal No. 5. January 1956. This signal was followed by the softness of 1956 (months of steel strike are *omitted* from the chart).

Signal No. 6. December 1956. This signal timed the end of the advance, and marked the beginning of the slide that did not end until April 1958.

Signal No. 7. October 1957. This signal reinforced the signal of 1956, as there was no plus signal in between.

Signal No. 8. September 1959. As I have said before, this signal *may* have been a result of distortions caused by the steel strike. *Maybe* it was the watch dog barking at a cat instead of at a prowler. But if I were you, I wouldn't go back to bed for a little while anyway!

* * *

I then told my friend that he could do the same thing for himself on the up side, when a plus 2 signal came through. He said he would.

Finally, I told him that this was just about all I knew about the Geisinger Indicator.

THE MODIFIED GEISINGER INDICATOR

Then he asked me about the *Modified* Geisinger Indicator.

"Oh, that's easy," I answered. "The *Modified* Geisinger Indicator is merely the sum of the Geisinger Indicator and another indicator called a First Difference Indicator. It does not have any trend in it, but its general configuration is a good bit like the general configuration of the F.R.B. Index of Industrial Production. Only—and this is important—it turns about eight months before industrial production turns. Therefore, if we plot it advanced by eight months, it projects a line *into the future* that usually gives some idea of how the F.R.B. Index of Industrial Production will behave when the actual figures catch up to the projected line. The line that sticks out into the future is, in a crude way, something like a picture of next month's newspaper."

"I see that now," said my fridnd. "And it is interesting that our business has done just what that little line said. We are substantially off for the first quarter of 1960, and your little line in the January 1960 issue indicated just this —if we had believed it."

"Better than that," said I. "The article that was printed in the January report was prepared November 25. About a thousand of our members find the Geisinger Indicator so helpful that they pay an extra $3 a year to have the figures sent them first class mail (air mail to the far west) immediately after they are prepared."

"Not a bad idea!" said he.

E. R. D.

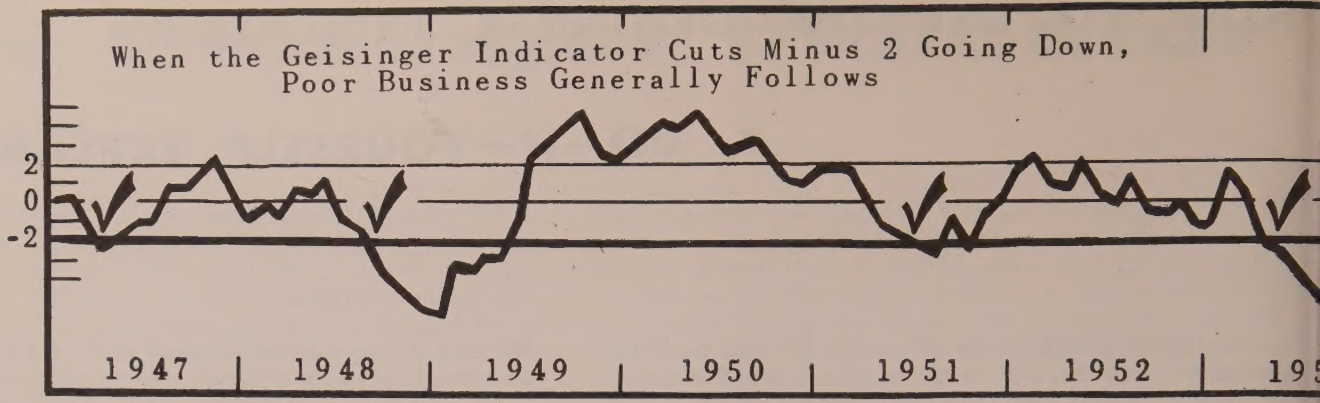


FIG.1 - GEISINGER INDICATOR CROSSOVER POINTS AT -2: DANGER SIGNAL

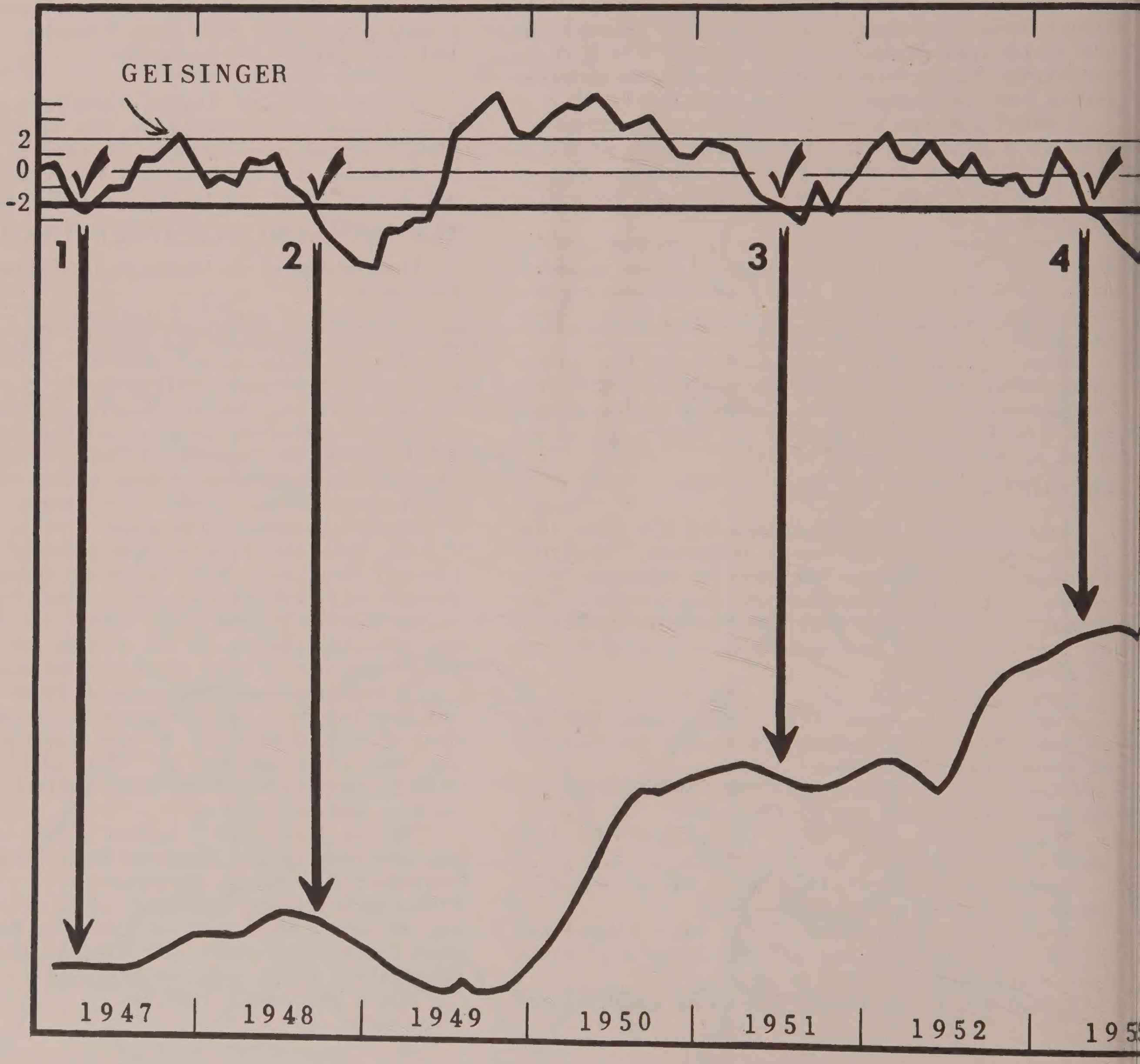
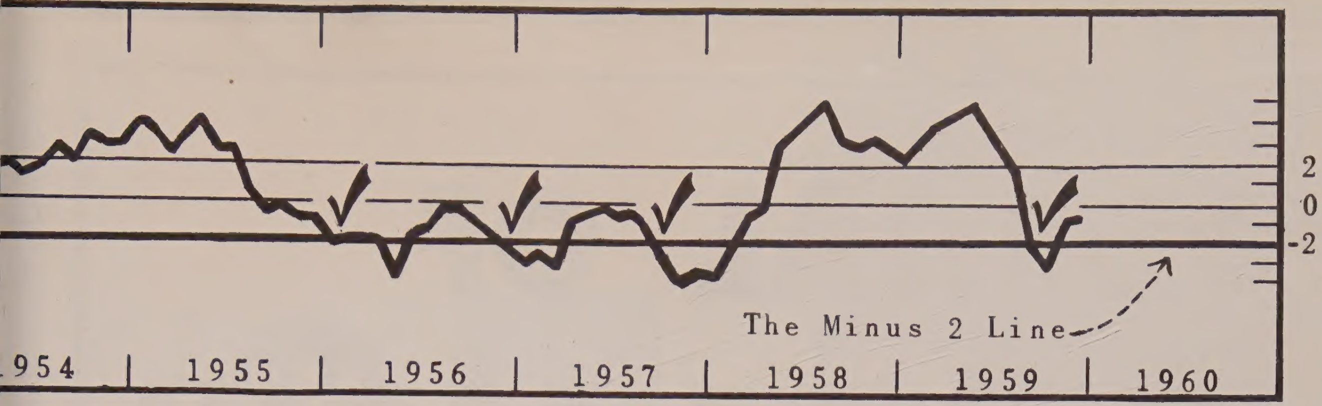
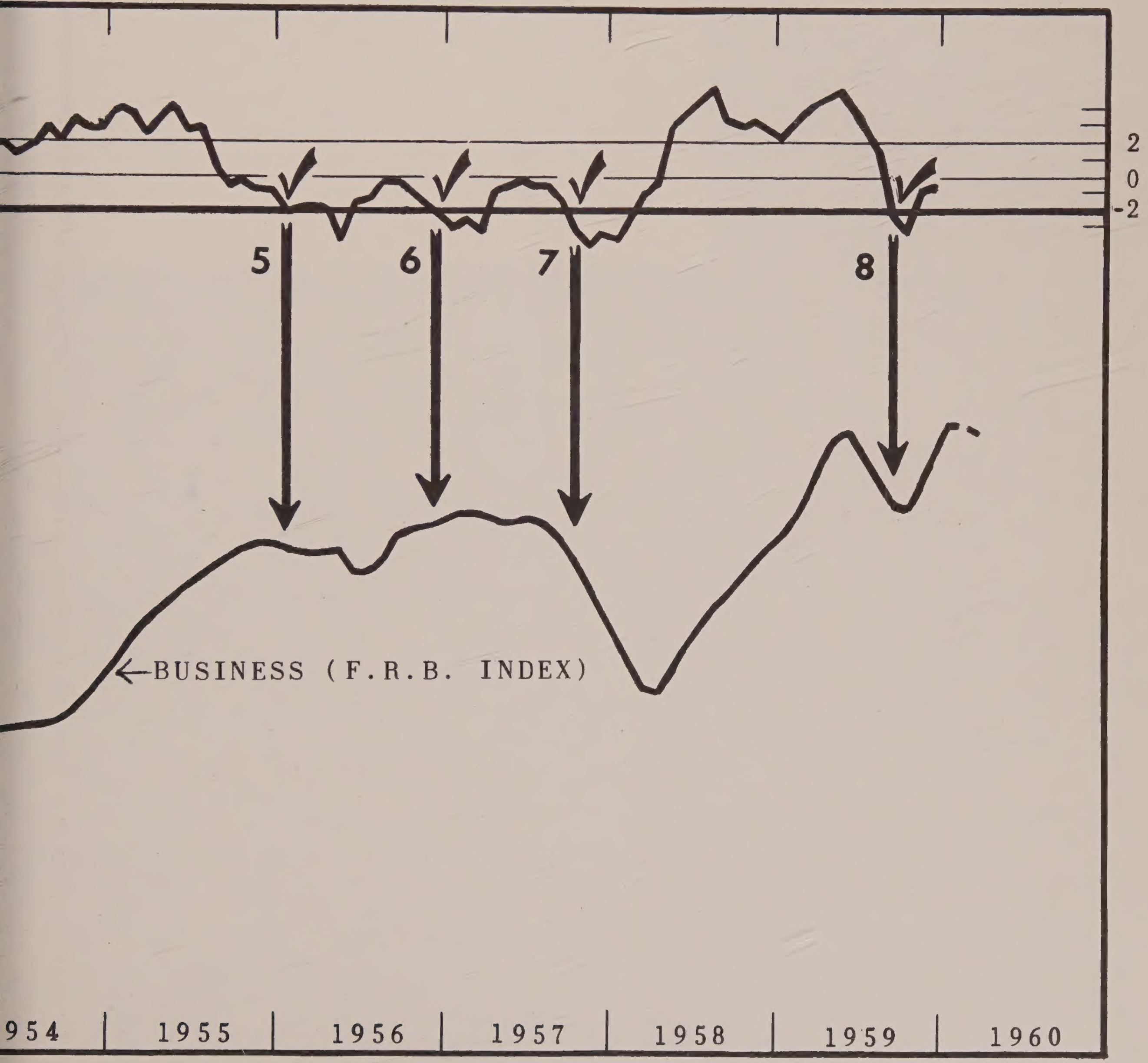


FIG.2 - A RECORD OF THE COURSE OF BUSINESS AFTER PREVIOUS DANGER SIGNALS


2
0
-2
The Minus 2 Line
954
1955
1956
1957
1958
1959
1960


2
0
-2
5
6
7
8
BUSINESS (F.R.B. INDEX)
954
1955
1956
1957
1958
1959
1960

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